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rtuguese farm scene

Big Rise Seen for Brazil's Wheat Output

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Since Portugal's political revolution 2 years ago, the Government has formulated numerous policies to modernize agriculture, including the mechanization of farm transport. As yet these policies have not made their full impact on the country's farm sector. See article beginning on page 7.

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Brazil—Striving for Wheat Self-Sufficiency

By PETER BUZZANELL
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Foreign Agricultural Service

BRAZIL IS ONE step closer to achieving its ultimate goal of wheat self-sufficiency—its 1976 wheat crop, to be harvested in coming weeks, is now expected to set a new record of about 4.0 million metric tons. If the record crop is attained, wheat imports in the year beginning in October could fall to 1.5 million tons, the lowest level since 1970.

This year's outturn would be more than twice the disappointing 1975 total of 1.6 million tons, and over 50 percent above the record crop of 1974. The forecast of a record crop largely reflects anticipation of good growing conditions, as well as a record 3.5 million hectares planted to wheat—up 12 percent from the 1975 level. Increased plantings were encouraged by a support price of Cr$127.80 per 60-kilogram bag (US$196 per metric ton), one of the highest in the world, and double cropping of wheat with soybeans.

Scattered frosts in mid-July did some damage to the wheat crop in the State of Paraná, and another hard frost was repeated the week of August 16. The latter frost could possibly lead to a reduction in the official estimate of the State's crop, which now stands at a record 1.5 million tons, representing 38 percent of the total expected crop.

Weather conditions in the State of Rio Grande do Sul, which produces over one-half of the entire crop, will be pivotal to the eventual outcome of the crop. There have been some reports of increased problems with rust disease and fungus in this major wheat growing state, but the results are not yet known. Heavy rains and high humidities could still pose a problem for the harvest in the State of Santa Catarina, but harvests in the States of São Paulo and northern Paraná are rather well assured.

Brazil is a traditional wheat-importing country, the largest in Latin America, but huge imports have drained Brazil's foreign exchange, contributing to balance-of-payments difficulties and hampering the financing of capital goods needed for development. In an effort to solve the problem and become wheat self-sufficient by the early 1980's, Brazil has encouraged wheat expansion, but the industry is plagued by cultivation problems and high costs. The recent adverse weather is a prime example of the obstacles to Brazil's attaining high wheat production.

Brazil's imports of wheat in recent years have ranged from as low as 1.5 million tons in 1970, to an estimated 3.6 million in 1975, when bad weather cut the country's wheat forecast. As a result, Brazil's wheat imports in calendar 1975—valued at $354 million—accounted for 44 percent of the total value of agricultural imports, and wheat was by far the most important single food import item. Wheat imports in calendar 1976 are estimated to be valued at about $530 million.

These annual imports of wheat are not new to Brazil, although they have pushed steadily higher in recent years.

Brazil's June Exports Hit Record High

Brazil's total exports for June 1976 hit an alltime monthly record of US$1 billion, up 46 percent from exports of June 1975. Principal export products included soybeans and products and coffee, together accounting for 54.9 percent of the total.

Brazil's agricultural exports during January-June 1976 increased by a little less than 1 percent over the same period a year ago, totaling $4.4 billion. Values of January-June exports of soybeans and products and coffee were up 50 and 78 percent, respectively, to $765 million and $806 million. Sugar exports, on the other hand, declined 84 percent to just over $123 million.

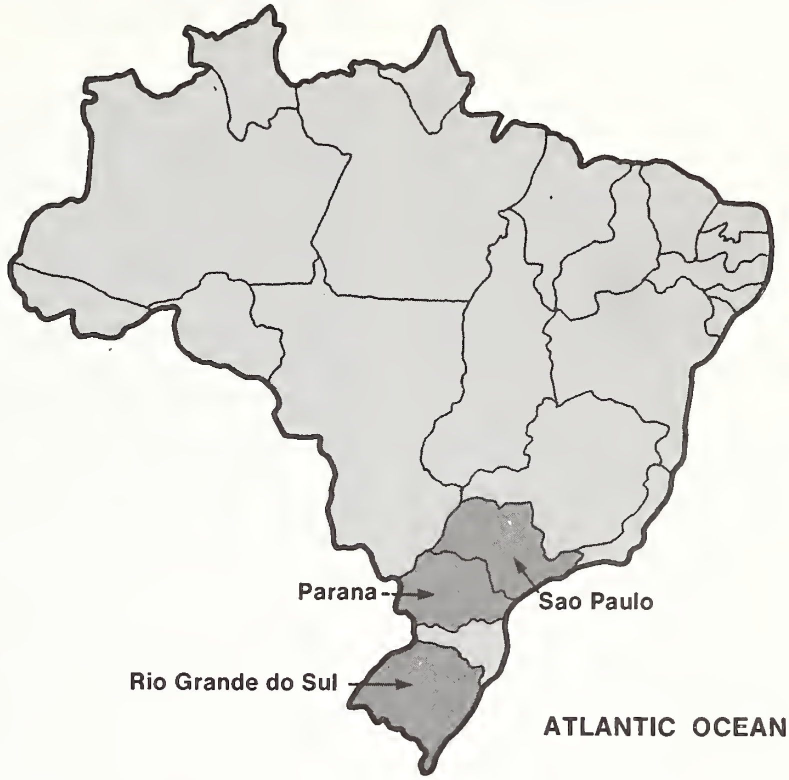
In the late 1930's imports averaged just under 1 million tons, while imports in the late 1950's and 1960's averaged about 1.6 million and 2.2 million, respectively.

Even though it has increased significantly in the last 40 years, Brazil's wheat production has not kept pace with demand. Frosts, excessive rains, fungus, and insect attacks have accentuated the problem, causing levels of production to rise and dip. Wheat production in 1975, for instance, was a disappointing 43 percent below the record 1974 crop of 2.8 million tons.

Only a relatively small part of Brazil possesses a suitable range of climatic conditions and natural resources for wheat cultivation. Since its introduction to Brazil in the 18th century, wheat production has been largely confined to two geographic regions—Zona Colonial and Zona de Campo, both in the State of Rio Grande do Sul. The two regions have distinct topography, soils, agronomic practices, and land tenure systems, resulting in differing impacts of Government efforts to increase wheat production.

Cultivation in Zona Colonial occurs on mountainous topography, though on relatively fertile soils. Historically, wheat agriculture in the region has been characterized by low yields per unit area, little mechanization, small holdings, and utilization of traditional farming techniques.

BRAZIL'S MAJOR WHEAT STATES AND ESTIMATED 1975-76 AREA AND PRODUCTION



Estimated Wheat Crop (Oct.-Sept. year)

State	Area 1975 (million acres)	Area 1976 (million acres)	Production 1975 (million metric tons)	Production 1976 (million metric tons)
Rio Grande do Sul	1.7	1.9	1.1	2.2-2.4
Parana	1.2	1.3	0.4	1.4-1.5
Sao Paulo	0.1	0.2	[1]	0.2
Other States	[1]	0.1	[1]	0.1
Total	3.1	3.5	1.6	3.9-4.2

[1] Less than 100,000 acres or metric tons.

ZONA DE CAMPO is currently the dominant wheat producing area in Brazil. Cultivation takes place on gently rolling topography, a natural grassland, facilitating mechanization. However, soils tend to be relatively infertile and acidic. In contrast to Zona Colonial, Campo agriculture is dominated by large farm size and monocrop farming, either wheat or wheat and soybeans in rotation.

Although precipitation in the major wheat producing areas is well distributed throughout the year, relative humidities are high and provide a natural environment for disease, especially rusts and mildews. A possible solution to recurring environmental problems in the humid climate might be intensive use of fungicides, which could raise that area's production by as much as 25 percent.

In addition, the persistent rains have left the soils of the Campo extremely weathered, with low natural fertility and high acidity. Of these problems, solutions to soil fertility have been viewed as the most fundamental and the precursor to substantially increasing yield per hectare. But the solution is costly—fertilizer accounted for over one-fourth of production costs in 1975.

Encouraging increases in area and yield is not the only means of achieving self-sufficiency. The Government of Brazil also has adopted policies that seek to protect the fledgling domestic wheat industry from foreign competition and to assure sufficient supplies to meet consumer demand.

The Government of Brazil, through the Bank of Brazil, implements wheat policies each year by establishing a minimum domestic price for wheat and by acting as the official buyer of domestic wheat. Since 1962, the Bank of Brazil has taken control over all wheat imports, which it buys on the international market and sells at higher prices to domestic mills. With its profits, the Bank of Brazil pays domestic producers higher prices than it pays for the imported wheat. The Bank then resells its domestic wheat to mills at lower prices than it paid the domestic wheat producers. The Bank also controls retail prices for wheat products.

Based on upward trends in population, urban migration, and gross national product per capita, market demand for wheat products will likely continue to advance in the near future. The urbanization process, in particular, is likely to further stimulate demand for wheat products, as Brazilians shift from traditional rural diets to bread

consumption. Likewise, continuance of Brazil's strong consumer subsidy on wheat will further stimulate demand, as prices of bread and other wheat products decline, relative to those for other staples.

The goal of self-sufficiency in wheat production has been very controversial —critics point to the subsidized high prices of Brazil's domestic wheat, compared with international prices, as evidence that the domestic wheat economy lacks efficiency. Others argue that the domestic resource cost of wheat per ton is double that for soybean and almost triple that for corn.

THE HIGH resource costs of wheat result from: Cultivation undertaken on infertile and highly acidic soil; the need for relatively expensive manufactured inputs; a lack of locally adapted wheat varieties efficient in utilizing nitrogen fertilizers; yields diminished by difficult climatic conditions; and insufficient scientific and technical support.

Wheat production costs in Brazil are high and climbing. These increasing costs are translated into the spiraling domestic wheat support prices. Advocates of self-sufficiency, however, maintain that costs in the short run are worth the goal of eliminating wheat imports. In addition, advocates point out that complementary relationships between wheat and soybeans improve overall efficiency per unit area—allowing double cropping and the maximization of land resources. Indications in mid-1976 are for even more double cropping than the 50 percent of total soybean acreage double cropped in 1975.

Brazil's domestic wheat expansion policy began in the late 1930's, seeking to reduce the country's dependence on foreign supplies. Both wheat acreage and total wheat production expanded after 1936 as a result of the Government's efforts. Between 1936 and 1957, wheat acreage expanded almost 6 times, with the 5-year averages in this period climbing from 168,000 hectares in 1935-39 to 966,000 hectares in 1955-59.

Wheat production increased about 5 times between 1936 and 1957, from 135,000 tons in 1935-39 to 662,000 tons in 1955-59, mainly as a result of increased acreage. Imports, however, continued to provide over 70 percent of apparent consumption. During this period, wheat cultivation spread from the mountainous Zona Colonial to the plains of Zona de Campo. Wheat expansion was encouraged by depressed meat prices and unprofitable cattle ranging, stimulating conversion of large tracts of grassland to wheat.

Also during this period, research developed wheat varieties that grew relatively well on the acid soils of the Campo; the Government provided loans for seed, machinery, and other inputs; and the Bank of Brazil supplied profitable price guarantees for wheat.

For the Brazilian wheat industry, the period of 1958-63 was one of stagnation and, in some areas, regression. Poor weather conditions, coupled with attacks of stem rust, resulted in lowered wheat yields, and a 30 percent drop in harvested area. Acreage and production fluctuated considerably during the 6-year period, resulting in domestic production providing an average of only 23 percent of annual consumption. Several researchers characterize this period as one of overexpansion in acreage without sufficient scientific and technical support.

A healthier expansion of wheat production occurred after 1963; acreage gradually grew in 1964-68, as did production, averaging about 665,000 tons annually. Significant efforts were made to improve cultural practices, marketing systems, and development of producer cooperatives. In addition, the Government aided production through programs of increased price support.

The work on infrastructure began to pay off in 1969 and 1970, with production totaling 1.4 million and 1.8 million tons, respectively. In 1970, for the first time, imports represented less than half of apparent consumption.

In 1971, Brazil produced its third consecutive record harvest—over 2.1 million tons—but it was not a year of record yields, owing to frost and pulgao (plant grub infestation).

Expecting another record crop in 1972, Brazilian wheat farmers were hit by the worst weather conditions in many years. Production was just under 700,000 tons, and yields were near an alltime low of 0.46 tons per hectare. Imports zoomed to 80 percent of consumption and 36 percent of total agricultural imports.

Both the 1973 and 1974 wheat crops recovered, with the 1974 crop a record in all respects—area harvested (2.3 million hectares), yield (1.22 tons per hectares), production (2.8 million tons), and domestic production's share of apparent consumption (60 percent). The record harvest enabled Brazil to reduce its imports to 2.0 million tons, almost 20 percent below 1973 imports, and over 30 percent under total imports required in 1972. The phenomenal increase in production could again be accounted for in part by the increase in the minimum price of wheat paid to farmers—78 percent above the previous season's minimum price.

After the disappointments of 1975, Brazil has once again reaffirmed its basic wheat policy goal of self-sufficiency. Though giving no timetable, the President of Brazil has stated that an additional 2 million hectares will be devoted to wheat production in the near future to achieve this goal.

Areas having the greatest potential for substantial expansion are southern Mato Grosso, the cerrados (pastures) in Goias and Minas Gerais, and São Francisco Valley in Bahia. Southern Mato Grosso is estimated to have the potential to produce as much as 500,000 tons annually. The costs of correcting the extremely acidic soil of the region, however, will be significant, though the double cropping potential with soybeans should substantially reduce costs per unit area.

WHEAT PRODUCTION in the São Francisco Valley of Bahia and in the cerrados of Goias and Minas Gerais will require irrigation in order to produce a targeted 500,000 tons by 1980. While the production costs for irrigating wheat are estimated to be about 20 percent higher than in southern Brazil, yields from these irrigated areas should be considerably above those in traditional growing areas.

Brazil still must contend with some basic problems, however. Weather, particularly frost, will continue to play havoc with yields, causing Brazil to import substantial amounts of wheat periodically; and logistical infrastructure problems are likely to continue to hinder Brazil's ability to supply its growing urban consumption centers with domestic wheat.

In addition, consumer subsidy policies on wheat will probably require review. Price differentials between wheat products and other staples will need to be narrowed if annual production increases are to keep pace with the upward trend in consumption.

Pakistan's Fats/Oils Imports To Remain High in 1976

With demand growing and this year's cottonseed crop less than optimal, the Government of Pakistan has upped its estimate of the amount of edible oil the country must import in 1975/76.

The Government's original estimate for edible oil import needs has been revised from the original 210,000 metric tons to the current estimate for nearly 260,000 tons, 35 percent more than 1974/75 imports of 192,170 tons.

To meet this large important requirement, Pakistan is depending heavily on imports of soybean oil from the United States under credit and concessional sales programs, and commercial imports of palm oil from Malaysia and Indonesia.

The Trading Corporation of Pakistan (TCP), which buys all edible oil, is expected to maintain its usual purchases of palm oil of about 115,000 tons.

In 1975/76 Pakistan received Commodity Credit Corporation (CCC) credits enabling import of 65,000 tons of U.S. soybean oil, this in addition to P.L. 480 Title I soybean oil.

During the past 2 years, Pakistan has been one of the primary recipients of Title I soybean oil, purchasing 40,000 metric tons of soybean oil in fiscal 1976 for delivery prior to June 30. This is a marked increase from the 6,400 tons purchased in fiscal 1975 when the world—and U.S.—vegetable oil supply/demand situation was extremely tight.

Pakistan continues to be one of the United States major markets for U.S. soybean oil, owing to demonstrated need due to increasing consumption, faltering domestic crops, low oil extraction rates, and the country's financial exchange difficulties. Despite increasing commercial imports, the gap between consumer demand and domestic availability—from both domestic production and commercial imports—cannot be filled without P.L. 480 assistance.

Increased edible oil imports are due to the rather lackluster year Pakistan expects to face in its own fats and oils production in 1975/76, owing to inadequate price incentives and low cottonseed production.

While future production of cotton, the principal source of seeds for edible oil, is seen rising 18 percent over 1975/76 levels, it will still be below the 1974/75 figure. Planned increases in soybean and sunflower production to supplement this are not likely to be felt for a few years, resulting in sizable vegetable oil imports in the near future.

Following the termination of the U.S. Agency for International Development's Commodities Import Program, which made possible annual imports of about 60,000 tons of U.S. tallow for the soap industry, Pakistan may need to find a replacement, possibly palm oil. Commercial imports of palm oil have grown in recent years, although soybean oil is generally preferred, and would be imported in even larger volumes if its price were more competitive with palm oil's.

The Government of Pakistan, realizing the increasing foreign exchange burden of edible oil imports, is taking steps to improve oilseed production. Although not particularly good in 1975/76, production during 1976/77 should show some improvement.

Cottonseed oil production in 1976/77 is forecast at 123,000 metric tons, compared with 94,000 and 139,000, respectively, in the previous 2 years. Production of rape and mustardseed oils is expected to rise 12 percent to 76,700 tons, and that of sesame and peanut oil is forecast up 22 percent and 10 percent, respectively.

For the current year, 1975/76, oilseed production in Pakistan is estimated at 1.34 million metric tons, about 244,000 tons less than that of a year earlier, owing to decreased cottonseed availability and lower oil content of seeds.

To improve upon these figures, Pakistan has undertaken a feasibility study on the marketing of cottonseed and the maximizing of oil extraction, and pilot programs for soybeans, sunflower, and safflower.

—Based on a report from
ALVIN E. GILBERT
U.S. Agricultural Attaché, Islamabad

U. S. Cigarette Exports Climbing

The United States is one of the world's largest cigarette manufacturers and exporters, with output rising most years since 1965 and exports climbing each year since then.

U.S. exports of cigarettes in calendar 1975 reached nearly 50 billion pieces worth over $368 million. And the record-breaking pace is continuing.

Fiscal 1976 exports (July 1975 through June 1976) were 58.2 billion pieces worth $458 million—up 25 percent in volume and 45 percent in value over fiscal 1975's. Only Bulgaria—on the strength of Comecon trade—rivals the United States as a cigarette exporter.

Export sales account for a growing percentage of U.S. cigarette output. In 1975, cigarette production of 651.2 billion pieces was 12 percent greater than in 1970. Exports of 49.9 billion in 1975 were 71 percent greater, with an increase in export value of 232 percent for the period.

Although the foreign leaf content of U.S. cigarettes continues to rise—from 15 percent in 1970 to about 20 percent in 1975—cigarette exports in 1975 represented the equivalent of approximately 87 million pounds (farm sales weight) of U.S.-grown tobacco—63 percent more than in 1970. And the value per pound (farm sales weight) of tobacco exported in 1975 in the form of cigarettes was 2½ times greater than that of cigarette tobacco exported in unmanufactured form.

Last year shipments went to more than 140 destinations with the 12 leading markets accounting for two-thirds of the total.

The dozen top customers for U.S. cigarettes in 1975, with their purchases in billions of pieces were: Belgium-Luxembourg, 7.5; Hong Kong, 4.4; the Netherlands Antilles, 3.9; Japan, 3.5; Iran, 3.1; Saudi Arabia, 2.3; Spain, 2.0; Kuwait, 1.9; United Arab Emirates, 1.7; the Canary Islands, 1.3; Syria, 1.3; and Lebanon, 1.0.

The oil-rich Middle East is rapidly becoming the major regional export market for U.S. cigarettes. In 1975, Middle East countries took over one-fourth of all U.S. cigarette exports—more than triple the volume of sales to this region in 1970.

—B. G. ANDREWS, FAS

Rising Prices Curb Chilean Beef Eating

Sharply rising beef prices in Chile recently have curbed that nation's appetite for beef, leaving butcher shops with temporary excesses of meat even as Government officials explore the possibility of importing meat to lower prices.

The consumer resistance began in late June, when wholesale and retail prices took more than their usual seasonal jump. During the last 2 weeks of June, slaughter cattle prices rose by almost 100 percent, while carcass meat prices in the slaughterhouses soared 140 percent. In Santiago, the price of carcass beef in slaughterhouses during the week of June 30 was fluctuating around US$1.40 per kilogram, with a peak $1.55 reached toward the end of the week.

These gains led to a near doubling of retail prices for most major cuts of beef between June 1 and July 10. Average retail prices of fillet, for instance, shot to the equivalent of US$3.36 per kilogram from $1.83 on June 1, while those on standard roast rose from $1.36 to $2.24. Even soupbones more than doubled in price, from 72 cents to $1.60.

These abrupt increases led to a "tug of war" between the consumers, butcher shops, and slaughterhouses. The consumers sharply reduced their purchases; many butcher shops reported decreases of 40-50 percent in sales; and suddenly butchers were faced with mounting supplies of unsold beef. Some price-cutting reportedly followed, while many old, antiquated, and small-volume shops were caught in a cost-price squeeze that may force at least some temporary closures.

The meat industry is saying that no one group is to blame. This time of year usually sees a seasonal rise in meat prices, but not nearly so much as these steep gains. Although returns to cattle producers have risen some, increases in production costs, transportation charges, and retail prices appear to have accounted for the bulk of the advance. In addition, heavy rains in May damaged roads in Chile, disrupting transportation of cattle to slaughter plants in Temuco, Valdivia, and Osorno.

The meat industry also is in favor of temporary imports at lower prices. However, this is contrary to its natural interest in maintaining relatively high price levels.

Normally, Chile would get such imports from nearby suppliers like Argentina, Uruguay, Peru, and Colombia. However, foot-and-mouth disease is endemic in all these countries, whereas Chile has successfully eradicated the disease, with no new outbreaks in the last 21 months. As a result, some sources have suggested that the country might import beef and veal from the United States, Australia, or other countries free of foot-and-mouth disease.

—Based on a dispatch from
MAX F. BOWSER,
U.S. Agricultural Attaché, Santiago

Italy's Deposit Plan Eases Trade Deficit, Fluidity Problems

Italy's import deposit scheme, which went into effect May 5 and is to extend through November 5, has helped reduce the country's trade deficit and excess liquidity problems.

However, it is still too early to determine the full impact of the scheme and its effect on U.S. farm exports to Italy.

The regulations require prior import deposits on all imported commodities—except wheat and some medical supplies—equal to 50 percent of the value of the foreign purchase.

Deposits at the end of July totaled $3.8 billion, and monthly trade deficits have dropped from $898 million in April to $575 million in June. Also, the lira has strengthened from a rate of 930 to the dollar in April to about 850 to the dollar in June.

Italy continues to cope with the drain of foreign reserves and the need for heavy foreign borrowing. The country's foreign trade deficit rose by more than $1.2 billion during the first 2 months the deposit scheme was in effect and totaled $3.6 billion during the first 6 months of 1976—almost three times the deficit in the first half of 1975 and greater than the deficit for all of the same year.

In May and June (the latest months for which data are available) U.S. farm exports to Italy were valued at a total $151 million—46 percent above those of the same period in 1975.

U.S. exports of corn and soybeans—the two leading U.S. farm exports to Italy—in May and June were valued at $106 million, 72 percent above the total for the comparable months of 1975. Reduced supplies of Italian feed (resulting from the drought in that country) and less competition from other suppliers are expected to result in larger shipments of U.S. corn and in especially large shipments of U.S. soybeans to Italy—possibly even record volumes.

Corn and soybeans are closely related to the growth of a viable livestock industry, which Italy needs if its import bill for livestock food products (about $2.5 billion in 1974) is to be reduced. The value of exports of U.S. soybean meal and tobacco to Italy also is likely to remain high.

—JAMES LOPES, ERS

Sugar Prices Fall As Stocks Mount

The New York spot price for sugar (raw, bulk, duty-paid) declined to $9.45 per hundredweight (cwt) on September 2, the lowest level since January 2, 1973. During the past month and one-half, there has been a general decline in the sugar spot price; the most recent peak price was $16.60 per cwt on July 6.

A very important factor in this slide has been the buildup of world sugar stocks. At the end of the 1975/76 sugar year (May-April) stocks at about 18 million tons were up compared to a year earlier. This was a turnaround in stock levels that had generally declined in recent years. Based on initial prospects for production and consumption in 1976/77, these could be a further buildup in stocks of from 1 million to 3 million tons. Stocks could thereby reach about 25 percent of annual consumption requirements.

Another important factor in world sugar prices is the record sugar harvest now beginning in a number of Southern Hemisphere countries.

Provinces Reflect Portuguese Farm Policies

By JOHN C. McDONALD
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Lisbon

MANY CHANGES ARE taking place in Portugal—and in Portuguese agriculture. Some of these, like land reform and collectivization of millions of acres, stem from the political revolution of April 25, 1974, which ended half a century of dictatorship. Others are the result of natural causes such as good weather early this season which promised to yield record crops of grain and then, later on, turned into drought, which depressed buoyant hopes and reduced crop prospects across the board.

These changes are most apparent in the south-central Provinces of Upper and Lower Alentejo, where more than half of the country's grain is produced. There, winter grains—with heavy emphasis on wheat—were sowed in great abundance last fall, with no stinting of seed, fertilizer, and other inputs easily obtainable on Government credit by newly organized collective farm units.

National grain area was expanded by about 100,000 hectares, from an estimated 1.36 million hectares in 1974/75 to 1.46 million this season. (1 ha=2.471 acres.) Production of all grain in 1976 was forecast at 1.7 million metric tons, 5 percent greater than the 1.6 million tons produced in 1975, but presently the U.S. Agricultural Attaché's Office expects total outturn to decline to about 1.5 million tons.

Wheat, which seemingly was planted everywhere and even under olive trees in some cases, was early predicted to realize a harvest ranging from 1 million tons to less than half that. The most optimistic forecasters were agrarian reformists, and the pessimists included former owners of expropriated farmlands.

The National Institute of Statistics (NIS) estimated that Portugal's wheat plantings were 10 percent greater than for last year and for the average of the most recent 10-year period. NIS said that wheat sown in one important district, where nearly 100 percent of the farmland was nationalized—Evora in the Upper Alentejo—was double the 10-year average and 50 percent greater than in 1974.

With oats and barley area larger this year by some 7 and 14 percent, respectively, lack of moisture is likely to hold production close to 1975 levels. Rye, with estimated plantings about equal to last season's, probably will decline a bit. The rice harvest and tomatoes—the latter an important product for processing—will be decidedly lower. Rice and tomato areas were reduced by 25 percent this year because of low water reserves resulting from several consecutive years of inferior rainfall; the 1976 drought has worsened their prospects.

Latest industry estimates for tomatoes for processing in 1976 total 600,000 tons, down 25 percent from last year's.

The Portuguese Government plans to develop tobacco and sugarbeet industries to make the country self-sufficient in tobacco and sugar. About $1.1 million have been earmarked to launch tobacco growing in the country and to provide financial assistance to the tobacco industry in the Azores.

PORTUGAL EXPECTS to produce about 200 tons of flue-cured tobacco in 1976—its first tobacco crop in 50 years. A ban on tobacco growing in continental Portugal was lifted last year. In the past 4 years, Portugal imported a yearly average of about 9,000 tons of tobacco, including manufactured products, valued at roughly $13 million. The United States supplied about 20 percent of the total. Portugal has set the early 1980's as the target date for reaching self-sufficiency in tobacco production.

Portugal has also been dependent on imports of sugar because neither sugarcane nor sugarbeets have been produced in the Portuguese islands nor on the continent, as a concession to its former African colonies. In 1974, when the

country's sugar consumption was about 250,000 tons, imports stood at 285,000 tons.

In 1975, the Government accepted bids for the construction of sugarbeet production and processing facilities. No awards have been announced and indications are that the Government itself will undertake to develop these enterprises. It already controls all other phases of the sugar industry.

Farm animals are rare in the Alentejo and relatively scarce all over Portugal except in the offshore Azores archipelago where splendid dairy cattle are to be seen in great numbers and obvious quality. Even in northern Portugal, where land holdings are small and farmers are ruggedly individualistic in contrast to those in the south, many cattle owners have just one or two head. Pigs are almost never seen.

A decade ago, swine were allowed to roam in search of feed, their main staple being acorns from the abundant holm oak trees. But with sporadic appearances of African fever and other swine fevers, they are now kept in confinement most of the time. Cattle numbers have dropped noticeably since 1974 and 1975; in those years, large farmers, fearful of land invasions, and landless workers—after occupying rural estates—sold off the livestock to realize what they could in a hurry. Each of these groups now accuses the other of having been the guilty party.

The Ministry of Agriculture's experiment station at Pegoes has two herds of mostly purebred beef animals—one Hereford, one Charolais. Young bulls are sold to farmers to upgrade their herds, and heifers are retained mostly for reproductive purposes. Despite calving problems, the Charolais animals are favored over the Hereford, largely because packers and butchers prefer the leaner Charolais carcasses and breaders like their faster rate of gain. Reportedly, continental Portugal's best dairy herd—Holstein-Friesians from U.S. stock—is located at the Ministry research station in Coruche.

Another herd of about 1,000-plus black-and-white cows and heifers is being run on a dairy, grape, and wine operation but only 230 cows are being milked. Ten of the females were imported from Canada about 6 years ago. U.S. semen is being used to supplement the services of eight bulls.

More than 300 workers belong to the cooperative that farms these 917 hectares (nearly 500 in grapes) expropriated from a single owner near Beja. Reportedly he formerly exported grapes to the United States and Europe, but now sales are made only in Portugal and to its offshore islands.

Three hundred co-op members work 860 hectares on a collective farm near Evora in the so-called Rich Men's Valley which, under the former owner, employed only 40-50 workers. An Agrarian Reform Institute representative in Beja said that workers' salaries are a heavy drain on agrarian reform funds and it seems inevitable that excessive worker numbers will be reduced. Unskilled male workers are paid about 180 escudos (about US$5.75) per day; tractor drivers and other skilled men receive 190 escudos; and women, 130 escudos.

A typical small farmer in the Alentejos has rented and farmed 360 hectares (nearly 900 acres) for the past 20 years. Each spring, in a 4-year cycle, he plows 25 percent of the land, sows it with wheat in the fall, and harvests the grain in May-June the following year.

PORTUGAL TO BUY U.S. GRAIN, OILSEEDS, COTTON

By JAMES LOPES
Foreign Demand and Competition Division
Economic Research Service

Portugal's foreign purchases of both oilseeds and grains are expected to rise in 1976, with the United States providing a large share of each. It is also likely Portugal may become a regular importer of U.S. cotton.

Portugal's imports of U.S. oilseeds are expected to set a record at about 185,000 tons in 1976, or about double the previous year's level. The Olive Oil and Oilseed Products Institute—a Government institution—plans to import a total of 200,000 metric tons of soybeans during 1976; purchases from the United States are forecast by the Institute to total 150,000 tons, of which about 80,000 tons are expected to be under Commodity Credit Corporation(CCC) credit.

During January-June 1976, U.S. exports of soybeans to Portugal approached 80,000 tons, or 1.7 times above the comparable period last year. This compares with 51,000 tons of U.S. soybeans imported in 1975.

Portugal's imports of sunflowerseed from the United States in 1976 are estimated at 24,000 tons, up 23 percent from 1975. Also, Portugal is likely to import 10,000 tons of U.S. peanuts, or about the same as in 1975, and some safflower seeds. However, the increase in imports of oilseeds may be partly offset by a decline in imports of oil cake and meal.

Portugal's oilseed crushing capacity at its three crushing plants—Iberol, Sovena, and Mendes Goudinho—which can easily process 200,000 tons of soybeans annually—remains well in excess of the current crushing rate. Consequently, the Government is giving priority to the importation of oilseeds for crushing over direct imports of vegetable oils and oilseed cake and meal. (In 1975, Portugal imported 80,000 tons of oilseed cake and meal, with 20,000 tons from the United States and close to 30,000 tons of edible vegetable oils, including 18,369 tons of olive oil.)

Although imports of U.S. soybeans are likely to be at a much higher level in 1976 than in 1975, Brazil is expected to capture a slightly larger share of the market. U.S. soybeans represented 85 percent of Portugal's total soybean imports in 1974; in 1975 this percentage dropped to 76 percent.

Portugal's imports of grains, including rice—for 1976/77 (July-June)—are estimated at 2.2 million tons (up 16 percent from last year's), with wheat imports at about last year's level of roughly 300,000 tons. Coarse grain imports, mainly corn, are expected to rise by about 250,000 tons to a total of nearly 1.8 million tons. Rice imports (milled) are forecast at about 100,000 tons—up about a fourth from last year's high level.

The same area is planted to oats the following year and then is left fallow for two seasons. Five hectares are sown to safflower each year. This type of farm, without electricity, has not been threatened with expropriation because its soils and crop production cause it to fall short of the 50,000 points calculated by the Government to qualify a farm for takeover.

The English manager of a nearby farm guessed that his farm's condition and productive capacity would cause it to score some 200,000 points on the Government's expropriation scale, but for some reason—perhaps because the owner is a non-Portuguese living abroad —the farm has not been nationalized. But another farm owned by the same Austrian absentee, however, has been taken over and is now being farmed cooperatively.

The unexpropriated farm has two dams with concrete runoffs, and its production includes irrigated rice yielding 6 tons per hectare, wheat, oats, barley, tomatoes (for paste), cattle, and sheep.

The conservative Portuguese Confederation of Farmers, with powerful roots among small, vehemently independent agriculturists almost entirely in the north, insists that a few land invasions were still occurring in the early months of 1976 and that the Minister of Agriculture had not fulfilled his promises to return to owners all the farms illegally occupied by rural workers.

As a result of this kind of pressure, the Ministry of Agriculture and Fisheries removed 40 regional agrarian reform officials who apparently were resisting the return of land to its owners.

Portugal Sets New Agricultural Policies

Portugal's new constitutional Government under Prime Minister Mario Soares will seek to boost "significantly" the contribution of the agricultural sector to satisfy domestic food needs.

A package of farm policies was approved by the Portuguese Assembly on August 11. Specifically mentioned as targets for intense production effort were the cattle, swine, poultry, sugarbeet, and tobacco sectors.

A fertilizer dealer in Evora, who farms 369 hectares (scored at 44,000 points) with relatives near Portalegre, believes that the Ministry of Agriculture has overstated the number of illegally occupied properties restored to their owners—that in fact, only a very few small pieces have been returned in the heavily collectivized Evora district. Some owners are afraid to move back to occupied properties. Others refuse to return to farms burdened by rusted machinery, empty livestock stalls, debts, and excessive labor forces.

One-third of the planted area on the dealer's farm is in wheat, another third in barley and oats, and the remainder in sunflowers. Yields registered on this farm in 1975 were considerably higher than the national averages: 2,000-2,500 kilograms of wheat per hectare, 2,000 kilograms of barley, and 1,800 kilograms of oats. The national averages in the 1975/76 marketing year (beginning July 1) were 1,417 kilograms, 904 kilograms, and 713 kilograms, respectively.

The grower had estimated that it cost him $233 for direct farm costs to produce a hectare of wheat, $105 for oats, and $171 for barley.

The United States is expected to supply a total of about 1.8 million tons (including rice) or 84 percent of Portugal's combined grain imports. U.S. exports to Portugal are being facilitated by a P.L.-480-Title I program for rice (56,000 tons worth $15 million) and CCC credit totaling $62 million for corn, sorghum, wheat, and soybeans.

Grain consumption (including rice) is expected to be 3.8 million tons, compared with 3.5 million tons in 1975/76. Consumption of wheat is estimated at 1.1 million tons, up about 150,000 from last year's, primarily because of demand by about 750,000 returnees from Angola and Mozambique. Despite sharply reduced livestock numbers, poor pasture conditions and reduced supplies of other feeds are expected to push up total consumption of coarse grains 200,000 tons. Feed uses are estimated at 2.2 million tons, including 1.6 million tons of corn and 420,000 tons of sorghum.

An increase in Portugal's grain area and generally favorable weather conditions through spring pointed to a record grain crop of 1.7 million tons (including rice). But recent drought conditions are expected to cut the 1976 grain harvest to less than 1.5 million tons, or slightly less than the previous year's. The wheat harvest, which in late May was forecast to reach 770,000 tons, is expected to be a maximum of 680,000 tons. This would be slightly less than production in 1975/76. Drought conditions have also cut rice production to 55,000 tons, or 30 percent below last year's, and sharply reduced prospects for corn production in the current year.

Portugal does not produce cotton. It imported an average of about 100,000 tons a year during 1971-75. Cotton from Angola and Mozambique has traditionally supplied 60-77 percent of Portugal's total raw cotton imports. This percentage dwindled from a high of 77 percent in 1971 to a low of 22 percent in 1975, as import sources shifted to Turkey, Latin American countries, Greece, and Sudan.

During the same period, imports of U.S. cotton increased from 1,600 tons, or nearly 2 percent of the total, to about 15,000 tons, or 16 percent. U.S. cotton exports are being aided by a P.L. 480 program. An agreement in April 1976 provided 16,000 bales (3,500 tons) of U.S. cotton valued at $5 million.

Portugal is expected to become a growing market for U.S. cotton. Higher labor costs and unrest at home, combined with restrictions on imports of Portuguese textiles by a number of leading traditional customers, reduced mill activity in the past 2 years. However, labor disputes have subsided and the industry expects both domestic and foreign markets to improve soon.

Raw cotton imports for 1976 are estimated at about 100,000 tons. Purchases from Angola and Mozambique, the former major cotton suppliers, are expected to be minor this year, with not much improvement in the near future, because of the unsettled situation in those two countries and the breakdown of their marketing channels. This leaves an excellent potential market for U.S. cotton, provided it remains competitive in price and quality.

U.S. is principal supplier

Imports Help To Meet Spain's Feedgrain, Soybean Needs

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SPANISH IMPORTS of feedgrains and soybeans reached new highs during calendar 1975. Increased demand for mixed feeds by Spain's sophisticated livestock and poultry industries and a limited domestic feedgrain production capability are likely to maintain a high level of imports for some time to come.

The growing importance of the Spanish market has put it high on the list of customers for U.S. feed ingredients. In 1975, Spain ranked fourth as a purchaser of U.S. soybeans and fifth for corn, with takings of 1.2 million tons[1] of soybeans and 3.1 million tons of corn.

Spain also imports soybeans from Brazil and corn from Argentina, Brazil, and South Africa.

The strengthening of Spain's economy during the latter part of the 1960's and the early 1970's was most impressive, averaging close to 8 percent per year in real terms. This period of sustained growth has moved the country from the ranks of the relatively less developed nations to a position nearer the other dynamic, wealthier nations of Western Europe.

Spain's current economic status has, in effect, increased substantially the disposable income of its citizens. Average per capita income was $2,431 in 1975, a gain in real terms of about 57 percent since 1965. However, Spain has faced problems of inflation and a subsequent lower absolute growth rate in recent years.

With the rise in disposable incomes, annual per capita consumption of all meats, including poultry and game, especially farm-raised rabbits, has jumped 121 percent from 59.1 pounds in 1965 to 130.9 pounds in 1974. Although this trend is expected to continue in the years ahead, the recent slowdown in economic growth in Spain will likely reduce its pace.

Annual consumption of locally produced dairy products, on a milk-equivalent basis, increased from 85.4 liters per capita to 133.5 liters over the same period. In addition, imports of fresh milk from France have jumped dramatically during the past 2 years.

To meet the impressive growth in domestic demand for meat, poultry, and dairy products, Spain is developing its own livestock industry. Limited meat and poultry imports have been permitted solely to alleviate temporary shortages during times when demand exceeded supply, at prices acceptable to the Spanish Government.

"In 1975, Spain ranked fourth as a purchaser of U.S. soybeans and fifth for corn, with takings of 1.2 million tons of soybeans and 3.1 million tons of corn."

Meat and poultry imports are thus strictly regulated, with the General Supply Commission in the Ministry of Commerce being the sole buyer. The bulk of these purchases have been made in the past several years from South American meat exporters.

Milk imports occur mostly during the winter months when domestic production is down.

The Spanish livestock and poultry industries have had to grow at a rapid rate to keep up with burgeoning demands. Swine and poultry, the principal industries utilizing manufactured feeds, have experienced the greatest growth.

Between 1965 and 1975, hog numbers jumped 76 percent from 4.9 million in 1965 to a high of almost 8.7 million in 1974 but dropped to 7.9 million in 1975. The cyclical slowdown in 1975 has been arrested and the upward movement will soon regain its momentum.

Official broiler numbers are currently being revised upward by rather large amounts. Thus, it is difficult to ascertain accurate figures or rates of growth. Nonetheless, it now appears that commercial broiler meat production increased by approximately 220 percent in a 10-year period—going from 181,700 tons in 1965 to about 579,000 tons in 1974.

Layers have expanded by 7 percent over the same period, while eggs produced for direct consumption have grown by 45 percent.

Cattle numbers, too, have shown an impressive growth rate between 1965 and 1975, increasing from 3.7 million head to 4.4 million. Milk cows, included in the above figures, increased by 26 percent, from 1.5 million head to 1.9 million.

Another more recent development in Spain is the rapid growth of the heavy-lamb industry. The idea behind the infant industry was—and is—to bring baby lambs to slaughter weight as quickly and as inexpensively as possible to provide Spanish consumers with a relatively low-cost meat product.

By placing baby lambs on concentrated feed rations it has been found that they can reach slaughter weights of about 30 kilograms within 90 days because of a highly favorable feed-meat conversion ratio.

With the strong support of the United States Feed Grains Council and financial backing from the Spanish Government, the number of fed lambs produced has been increased from essentially zero in 1972 to 3 million in 1974.

The upshot of these impressive livestock and poultry production growth figures has been a dramatic increase in demand for manufactured feed components. Virtually all of the poultry and much of the pork reaching Spain's commercial market today come from large, efficient farms utilizing production techniques similar to those employed in the United States. Feed rations, particularly in the broiler industry, are often computer calculated to obtain the lowest cost product.

Mixed feed production in Spain in 1974 was approximately 7.7 million tons. Based on incomplete data, it is estimated that 1975 mixed feed production should come close to 8.3 million tons. This is 159 percent greater than 1965's mixed feed production, which has been

[1] **All tons are metric.**

estimated at 3.2 million tons.

The growth in 1975 came at a time when livestock numbers had actually leveled somewhat due to then current domestic economic pressures. The increase was partially explained by the continued growth of the poultry industry and greater reliance on mixed feeds. Also serious drought conditions forced additional confined feeding of cattle that normally would have remained on pasture for a longer period of time.

The poultry industry remains the principal consumer of mixed feeds, taking about 50 percent of total production. About 30 percent goes to the swine industry, with the remainder used by other livestock categories.

Spain's generally unfavorable climate and topographic resources are deterrents to a highly productive, diversified feedgrain-type agriculture. Therefore, increases in the domestic production of feedgrains have not been adequate to keep up with the rapidly growing requirements of the livestock industry.

Corn production has increased by 75 percent since 1965 to almost 2 million tons in recent years. Of this amount, it is estimated that considerably less than 1 million tons a year reaches the feed industry for commercial use. And, any further substantial gains in corn production must be made on available irrigated land not used for competing crops such as sugarbeets.

Production of barley, a dryland crop, and the other principal feedgrain commodity grown in Spain, has accelerated at an even more substantial pace from the mid-1960's. Government price support policy has encouraged farmers to switch from wheat to barley production. This has partially contributed to the more than 100 percent increase in barley area, to about 3 million hectares in the past 10 years. Annual production has gone from about 2 million tons in 1965 to a record of nearly 7 million tons in 1975.

Additional production of barley would have to come at the further expense of competing dryland crops, particularly wheat. Since Spain in recent years has attempted to grow only sufficient quantities of wheat to meet domestic breadgrain requirements, there is no room for further substitution.

Although annual sorghum production has increased by almost 270 percent from 1965 to 1974, going from 42,800 tons to 157,300 tons, the size of the crop has actually dropped in more recent years. Production in 1970 was 189,500 tons, a third greater than in 1975.

Locally produced oilseed crops also fall far short of meeting domestic protein-meal requirements, now standing at about 2 million tons annually. Sunflowerseed is the single oilseed grown in Spain, supplying relatively important quantities of protein meal. But meal derived from sunflowerseed in 1975/76 was estimated at only 130,700 tons.

As the livestock sector has grown, Spain consequently has become increasingly dependent on outside sources to satisfy domestic feedgrain and oilseed and meal requirements. Corn imports have climbed from 2.3 million tons in 1965 to 4.2 million tons in 1975.

Production of sorghum, the other principal feedgrain import commodity, has fluctuated greatly during past years, but the 529,868 tons imported in 1975 was second only to the 619,000 tons imported in 1971.

IMPORTED OILSEEDS have been providing the bulk of Spain's protein meal requirements.

To meet the requirements of the livestock and poultry industries, soybean imports have increased over fourfold during the past 10 years to about 1.7 million tons in 1975. In addition, because domestic protein meal requirements in 1975 slightly outstripped the country's crushing capacity, close to 200,000 tons of soy meal were imported. At least that amount is expected to be imported in 1976.

Spain recognizes that at least in the short run it will remain—to a great extent—dependent on foreign supplies of feed ingredients.

Nonetheless pressure is mounting to relieve this dependency.

Corn producers argue that given proper price incentives, they could substantially increase production. On the other hand, to raise domestic prices beyond those in existence—already over world market prices—would fuel Spain's inflation even more.

Oilseed production seems to have reached a plateau, at least for the immediate future. Farmers boosted plantings of sunflowerseed from 437,000 hectares in 1974 to 623,000 hectares in 1975, a 43 percent jump. But production rose by only 18 percent to 438,000 tons as a result of low yields caused by the drought and high temperatures during the summer. This disappointing performance is expected to have a negative effect on sunflowerseed plantings for 1976.

Although soybeans have been grown on a small commercial basis in recent years, their potential has not yet been fully explored. Early in 1974 the Government announced a stepped-up program for greater plantings of soybeans. However, there are many factors restricting production. The amount of land suitable for cultivation is limited by climate. Also, soybean production in Spain requires irrigation, and Spain is now using irrigated land for other profitable crops such as sugarbeets. In 1975, only 16,000 tons were grown, less than half the 1974 figure.

Given current limitations, any permanent solution to Spain's feedgrain shortage is probably a long way from being found. And thus the country will have to depend on imports of corn and soybeans, most of which will come from the United States.

SPANISH RED MEAT AND POULTRY PRODUCTION
[In 1,000 metric tons]

Item	1965	1970	1971	1972	1973	1974	1975
Beef and veal	177.3	308.2	323.6	302.5	371.2	416.0	454.7
Pork	266.3	491.7	475.1	461.2	588.5	710.1	601.9
Lamb	121.9	127.1	124.2	126.3	131.3	142.0	148.2
Poultry meat	234.4	499.0	477.0	554.0	600.0	649.0	631.1

SPANISH FEEDGRAIN, SOYBEAN, AND SOY MEAL IMPORTS
[In 1,000 metric tons]

Item	1965	1970	1971	1972	1973	1974	1975
Corn	1,560.0	1,971.9	2,056.7	2,382.7	2,717.6	4,102.6	4,181.6
Sorghum	43.1	184.3	619.0	128.2	194.0	390.6	529.9
Soybeans	339.9	1,229.6	1,311.0	1,428.5	834.5	1,587.9	1,736.9
Soybean meal	98.4	25.0	28.2	38.7	381.2	163.0	199.9

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EAST EUROPEAN FEED SHORTAGE WILL MEAN RECORD GRAIN IMPORTS

Estimates of the East European grain harvest are steadily being scaled downward as the results of earlier dry weather become apparent, while export requirements are being raised.

The area's grain imports for 1976/77 are expected at least to be a record 13 million tons of wheat and coarse grains; the initial early season estimate called for imports of only 10.5 million tons.

U.S. grain export commitments to East Europe for shipment during 1976/77 already total 3.7 million metric tons. East German purchases of 2.4 million tons of new-crop wheat and corn equal that country's total import of U.S. grain during 1975/76. Poland, whose crop has been seriously hurt by the drought, is also expected to buy large quantities of U.S. feedgrains. Last year the Poles purchased over 3 million tons of U.S. wheat and corn.

On August 13, the crop was estimated at roughly 90 million metric tons, down from the June estimate of 93 million tons, but was still expected to be close to the 1974 record of 91.1 million tons.

Based on more recent information, however, the East European grain harvest is now estimated at 84 million tons —5 percent less than the August 13 USDA estimate.

The harvested area is about the same as in the past 2 years, but the small grain harvest is a disappointment because of the protracted dry and hot weather. Corn has suffered also, but an average corn harvest is still attainable if normal growing conditions prevail during the remainder of the vegetative season.

The drought in June and July followed a soil moisture deficit prevailing throughout the early vegetative period. The share of normal soil mositure on July 20 was less than half in the German Democratic Republic (GDR), about half in Czechoslovakia, about two-thirds in Hungary, three-fourths in Bulgaria and Poland, and slightly less than normal in Romania and Yugoslavia. However, precipitation later improved soil moisture everywhere except in the GDR. But the rain was too late for small grains.

Crops in the GDR and Poland, which have large shares of the loose, sandy soils particularly vulnerable to low soil moisture, suffered more from lack of water than the soil moisture figures indicate.

Based on soil moisture data, U.S. Agricultural Attaché reports, and some statements published in the respective countries, the crops fared worst in the GDR. Normal crops are expected in Bulgaria and Romania, and an above-average one in Yugoslavia. The hot, dry weather caused significant harvest losses. All grains ripened precipitously and simultaneously, which precluded optimal timing of the harvest.

Excessive heat retarded the growth of all crops, and scorched the meadows and pastures. In Czechoslovakia, the GDR, and Hungary, the first cut of hay was 15 to 20 percent below average, and the second and third cuts will yield even less. The potato and sugarbeet harvests will also be down, aggravating the feed situation, particularly in the northern countries.

The governments most affected by the drought urged farmers to fully utilize irrigation capacity, save all the straw for feed, cut hay on embankments and edges of roads, economize with feeding, avoid distress slaughter, sow catch crops, and cut heavily damaged grain for forage.

Economic consequences of the drought will depend on government policies:

- If the livestock inventory is retained, concentrated feed imports must increase in order to replace loss of grains, potatoes, and forages.
- If livestock inventory is reduced, meat must be imported to satisfy domestic demand in Czechoslovakia and the GDR, or net meat exports must be cut in Hungary and Poland.
- If food prices were increased to reduce domestic demand, unrest might develop as it did in Poland.
- If shortages are allowed, dissatisfaction and black marketing might follow the Government's action.

A likely action would be a balanced approach of increasing feed imports; changing the pattern of meat trade; increasing, somewhat, the consumer prices; and allowing some unfilled demand.

All East European countries are deep in hard-currency debt; consequently, any further grain purchases probably will involve refraining from some purchases of industrial consumer or capital goods. This, in turn, will slow down economic growth.

One solution would be provision by the USSR of grains to Eastern Europe on credit under bilateral arrangements.

By THOMAS A. VANKAI, ERS

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